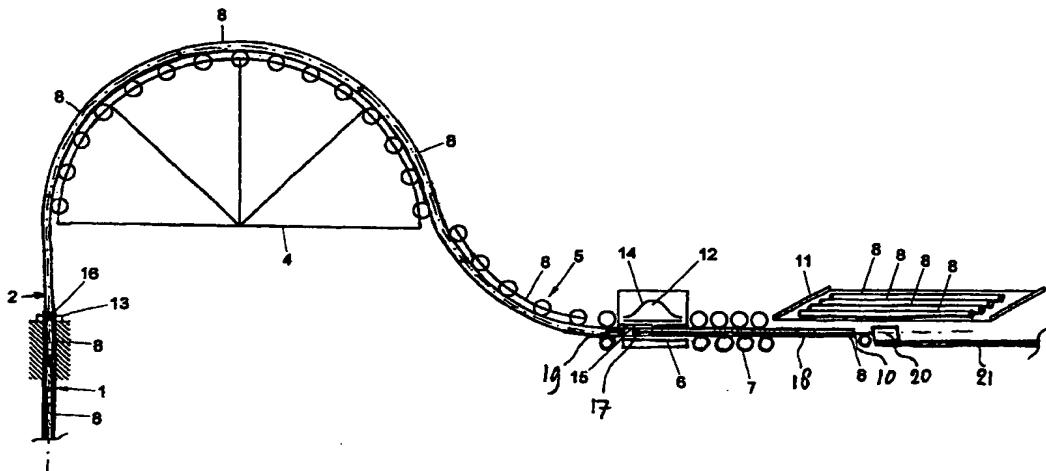


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## (54) Title: PIPE HANDLING APPARATUS AND METHOD



## (57) Abstract

When inserting a tube (2) into a borehole (1) in the ground for extracting minerals, tube parts (8) are successively added to the proximal end of the tube (2) while the tube (2) reaches into the borehole (1). Thereafter, the tube (2) is inserted further into the borehole (1). As the addition of the tube part (8) is carried out by welding, each time an eminently sealing and slender joint between the tube parts is obtained. As the tube parts are successively added to the tube only when this is necessary for inserting the tube further into the ground, winding up the tube to store it prior to insertion is not necessary and the use of a tube-carrying reel which is difficult to handle is thus rendered redundant. Further, an installation for carrying out the proposed method is described.

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## B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)  
IPC 7 E21B F16L

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

## C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	EP 0 396 204 A (SHELL INT RESEARCH) 7 November 1990 (1990-11-07) claims 1,2,4 figure 1	1-4,12, 13,18-21
Y	—	5-9
Y	US 3 677 345 A (SIZER PHILLIP S) 18 July 1972 (1972-07-18) column 2, line 34-55	5-9
X	GB 1 405 359 A (INST ELEKTROSWARKI PATONA;NAUK UK SSSR) 10 September 1975 (1975-09-10) claim 1 figure 2	1-4,12, 18-20
	—/—	

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## C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	US 5 013 880 A (PUETTMANN FRANZ-JOSEF) 7 May 1991 (1991-05-07) claim 1	1,18
A	US 3 667 554 A (SMITHERMAN EUGENE A) 6 June 1972 (1972-06-06) the whole document	1,18
A	US 3 724 567 A (SMITHERMAN E) 3 April 1973 (1973-04-03) the whole document	1,18
A	US 4 848 455 A (FENYVESI JANOS) 18 July 1989 (1989-07-18) the whole document	1,18

**INTERNATIONAL SEARCH REPORT**

Information on patent family members

Int. [REDACTED] Application No  
PCT/NL 00/00037

Patent document cited in search report	Publication date	Patent family member(s)			Publication date
EP 0396204	A 07-11-1990	AU	620711 B		20-02-1992
		AU	5460290 A		08-11-1990
		CA	2015844 A		03-11-1990
		DE	69002860 D		30-09-1993
		DE	69002860 T		23-12-1993
		JP	2304195 A		17-12-1990
		JP	2747084 B		06-05-1998
		NO	301032 B		01-09-1997
		US	5071053 A		10-12-1991
US 3677345	A 18-07-1972	NONE			
GB 1405359	A 10-09-1975	NONE			
US 5013880	A 07-05-1991	DE	3839633 C		05-04-1990
		EP	0370183 A		30-05-1990
		JP	2151369 A		11-06-1990
US 3667554	A 06-06-1972	US	3724567 A		03-04-1973
US 3724567	A 03-04-1973	US	3667554 A		06-06-1972
US 4848455	A 18-07-1989	SE	461050 B		18-12-1989
		GB	2212838 A		02-08-1989
		SE	8704678 A		26-05-1989